

PATENT ABSTRACTS OF JAPAN

(11)Publication number : 2001-251233

(43)Date of publication of application : 14.09.2001

(51)Int.Cl.

H04B 7/10
H01Q 3/24
H01Q 3/26
H01Q 21/20
H04B 7/06
H04B 7/08
H04B 7/26

(21)Application number : 2000-351612

(71)Applicant : TOSHIBA CORP

(22)Date of filing : 17.11.2000

(72)Inventor : MATSUOKA HIDEHIRO
SHIYOUKI HIROKI

(30)Priority

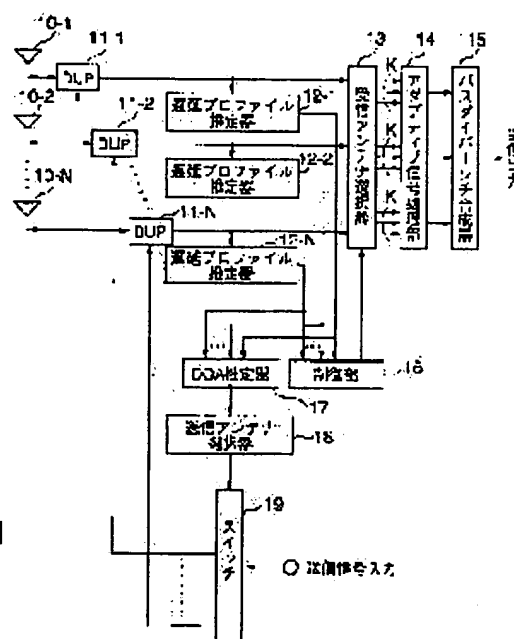
Priority number : 11371762 Priority date : 27.12.1999 Priority country : JP

(54) WIRELESS COMMUNICATIONS EQUIPMENT USING ADAPTIVE ANTENNA

(57)Abstract:

PROBLEM TO BE SOLVED: To provide a wireless communication unit, that can form a transmission beam by easily estimating a radio wave arrival direction to enhance a mean reception SIR in an opposite station, even in a system where an incoming channel and an outgoing channel use different frequencies.

SOLUTION: In the wireless communications equipment where delay profile estimate units 12-1 to 12-N estimate a delay profile between a desired wave and its delay wave for each reception signal from each of directive antennas 10-1 to 10-N configuring an array antenna, and an adaptive signal processing section 14 and a path diversity synthesizer 15 apply time spatial equalization signal processing to a received signal from an antenna selected by a reception antenna selector 13 on the basis of the estimation to obtain a



reception output, a DOA estimate unit estimates an arrival angular range of the desired wave from the delay profile estimated by the delay profile estimate units 12-1 to 12-N and a transmission antenna selector 18 selects an antenna used for the transmission, on the basis of the estimated arrival angular range and the selected antenna is used for transmission.

LEGAL STATUS

[Date of request for examination] 12.02.2003

[Date of sending the examiner's decision of rejection]

[Kind of final disposal of application other than the examiner's decision of rejection or application converted registration]

[Date of final disposal for application]

[Patent number]

[Date of registration]

[Number of appeal against examiner's decision of rejection]

[Date of requesting appeal against examiner's decision of rejection]

[Date of extinction of right]

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